

SEQUENCE LISTING



<110> Landry, Donald

<120> ANTI-COCAINE CATALYTIC ANTIBODY

<130> 51400-B

Sub C1
<140> 09/940,727

<141> 2001-08-28

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<150> 09/214,095

<151> 1999-07-19

<160> 121

<170> PatentIn version 3.1

<210> 1

<211> 109

<212> PRT

<213> Murinae gen. sp.

<400> 1

Ala Val Val Thr Gln Glu Ser Ala Leu Thr Thr Trp Pro Gly Glu Thr
1 5 10 15

Val Thr Leu Thr Cys Arg Ser Ser Thr Gly Thr Ile Thr Thr Ser Asn
20 25 30

Tyr Ala Asn Trp Val Gln Glu Lys Pro Asp His Leu Phe Ser Gly Leu
35 40 45

Ile Gly Ile Asn Asn Asn Arg Pro Pro Gly Val Pro Ala Arg Phe Ser
50 55 60

But CI Gly Ser Leu Ile Gly Asp Lys Ala Val Leu Thr Ile Thr Gly Ala Gln
65 70 75 80

Thr Glu Asp Glu Ala Ile Tyr Phe Cys Ala Leu Trp Tyr Ser Asn His
85 90 95

Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 2

<211> 109

<212> PRT

<213> Murinae gen.sp.

<400> 2

Ala Val Val Thr Gln Glu Ser Ala Leu Thr Thr Arg Pro Gly Glu Thr
1 5 10 15

Val Thr Leu Thr Cys Arg Ser Ser Ala Gly Thr Ile Thr Thr Ser Asn
20 25 30

Tyr Ala Asn Trp Val Gln Glu Lys Pro Asp His Leu Phe Ser Gly Leu
35 40 45

Ile Gly Val Asn Asn Asn Arg Pro Pro Gly Val Pro Ala Arg Phe Ser
50 55 60

Gly Ser Leu Ile Gly Asp Thr Ala Ala Leu Thr Ile Thr Gly Ala Gln
65 70 75 80

Thr Glu Asp Glu Ala Ile Tyr Phe Cys Ala Leu Trp Tyr Ser Asn His
85 90 95

Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 3

<211> 109

<212> PRT

<213> Murinae gen.sp.

<400> 3

Ala Val Val Thr Gln Glu Ser Ala Leu Thr Thr Ser Pro Gly Glu Thr
1 5 10 15

Val Thr Leu Thr Cys Arg Ser Ser Thr Gly Thr Ile Thr Ser Asp Asn
20 25 30

Tyr Ala Asn Trp Val Gln Glu Lys Pro Asp His Leu Phe Ser Gly Leu
35 40 45

Ile Gly Val Asn Asn Tyr Arg Pro Pro Gly Val Pro Ala Arg Phe Ser
50 55 60

Gly Ser Leu Thr Gly Asp Lys Ala Val Leu Thr Ile Thr Gly Ala Gln
65 70 75 80

Thr Glu Asp Glu Ala Ile Tyr Phe Cys Ala Leu Trp Tyr Ser Asn His
85 90 95

Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

<210> 4

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<212> PRT

<213> Murinae gen. sp.

<400> 4

Thr Arg Ala Gly Glu Thr Val Thr Thr Cys Arg Ser Ser Ser Gly Thr
1 5 10 15

Ile Thr Ala Asn Asn Tyr Gly Ser Trp Val Gln Glu Lys Pro Asp His
20 25 30

Leu Phe Thr Gly Leu Ile Gly Val Ser Asn Asn Arg Gly Pro Gly Val
35 40 45

Pro Ala Arg Phe Ser Gly Ser Leu Ile Gly Asp Lys Ala Val Leu Thr
50 55 60

Ile Thr Gly Gly Gln Thr Glu Asp Glu Ala Ile Tyr Phe Cys Ala Leu

65

70

75

80

Trp Asn Ser Asn His Phe Val Phe Gly Gly Gly Thr Lys Leu Thr Val
85 90 95

Leu Gly

<210> 5

<211> 113

<212> PRT

<213> Murinae gen. sp.

<400> 5

Asp Ile Val Met Thr Gln Asp Glu Leu Ser Asn Pro Val Thr Ser Gly
1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Arg Ser Leu Leu Tyr Arg
20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Phe Leu Gln Arg Pro Gly Arg Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Leu Met Ser Thr Arg Ser Ser Gly Val Ser
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Glu Ile
65 70 75 80

Ser Arg Val Lys Ala Glu Asp Val Gly Val Tyr Tyr Cys Gln His Phe
85 90 95

but C17

Val Asp Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
100 105 110

Arg

<210> 6

<211> 113

<212> PRT

<213> Murinae gen. sp.

<400> 6

Asp Met Val Met Thr Gln Asp Glu Leu Ser Asn Pro Val Thr Ser Gly
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Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Arg Ser Leu Leu Tyr Arg
20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Phe Leu Gln Arg Pro Gly Arg Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Leu Met Ser Thr Arg Ala Ser Gly Val Ser
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Glu Ile
65 70 75 80

Ser Arg Val Lys Ala Glu Asp Val Gly Val Tyr Tyr Cys Gln His Phe
85 90 95

Glu Asp Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
100 105 110

Arg

<210> 7

<211> 113

<212> PRT

<213> Murinae gen. sp.

<400> 7

Asp Met Val Met Thr Gln Asp Glu Leu Ser Asn Pro Val Thr Ser Gly
1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Arg Ser Leu Leu Tyr Arg
20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Phe Leu Gln Arg Pro Gly Arg Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Leu Met Ser Thr Arg Ala Ser Gly Val Ser
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Glu Ile
65 70 75 80

Ser Arg Val Lys Ala Glu Asp Val Gly Val Tyr Tyr Cys Gln His Phe
85 90 95

Val Asp Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
100 105 110

Arg

<210> 8

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<212> PRT

<213> Murinae gen. sp.

<400> 8

Asp Ile Val Ile Thr Gln Asp Glu Leu Ser Asn Pro Val Thr Ser Gly
1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu Tyr Glu
20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Phe Leu Gln Arg Pro Gly Gln Ser
35 40 45

Pro His Leu Leu Ile Tyr Leu Met Ser Thr Arg Ala Ser Gly Val Ser
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Glu Ile
65 70 75 80

Ser Arg Val Lys Ala Glu Asp Val Gly Ala Tyr Tyr Cys Gln Gln Phe
85 90 95

Val Glu Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Arg
100 105 110

Arg

<210> 9

<211> 114

<212> PRT

<213> Murinae gen. sp.

<400> 9

Glu Leu Val Met Thr Gln Ser Pro Leu Thr Leu Ser Val Thr Ile Gly
1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Phe Phe Gln Arg Pro Gly Gln Ser
35 40 45

Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
50 55 60

Asp Arg Phe Thr Gly Ser Gly Ser Gly Lys Asp Phe Thr Leu Lys Glu
65 70 75 80

Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Leu Tyr Tyr Cys Val Gln
85 90 95

Gly Tyr Thr Phe Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu
100 105 110

Lys Arg

<210> 10

<211> 117

<212> PRT

<213> Murinae gen. sp.

<400> 10

Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

Ser Leu Ser Leu Thr Cys Thr Val Thr Gly Asn Ser Ile Thr Ser Asp
20 25 30

Tyr Ala Trp Thr Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu Trp
35 40 45

Met Gly Tyr Ile Arg His Ile Tyr Gly Thr Arg Tyr Asn Pro Ser Leu
50 55 60

Ile Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe Phe
65 70 75 80

Leu Gln Leu Asp Ser Val Thr Ala Glu Asp Thr Ala Thr Tyr Tyr Cys
85 90 95

Val Arg Tyr His Tyr Tyr Gly Ser Ala Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ala
115

<210> 11

<211> 117

<212> PRT

<213> Murinae gen. sp.

<400> 11

Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

Ser Leu Ser Leu Thr Cys Thr Val Thr Gly Asn Ser Ile Thr Ser Asp
20 25 30

Tyr Ala Trp Thr Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu Trp
35 40 45

Met Gly Tyr Ile Arg His Ile Tyr Gly Thr Arg Tyr Asn Pro Ser Leu
50 55 60

Ile Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe Phe
65 70 75 80

Leu Gln Leu Asp Ser Val Thr Ala Glu Asp Thr Ala Thr Tyr Tyr Cys
85 90 95

Val Arg Tyr His Tyr Tyr Gly Ser Ala Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ala
115

<210> 12

<211> 117

<212> PRT

<213> Murinae gen. sp.

<400> 12

Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

Ser Leu Ser Leu Thr Cys Thr Val Thr Gly Asn Ser Ile Thr Ser Asp
20 25 30

Tyr Ala Trp Thr Trp Ile Arg Lys Phe Pro Gly Asn Lys Leu Glu Trp
35 40 45

Leu Gly Tyr Ile Arg His Ile Tyr Gly Thr Arg Tyr Asn Pro Ser Leu
50 55 60

Ile Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe Phe
65 70 75 80

Leu Gln Leu Asp Ser Val Thr Ala Glu Asp Thr Ala Thr Tyr Tyr Cys
85 90 95

Val Arg Tyr His Tyr Tyr Gly Ser Ala Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ala
115

<210> 13

<211> 117

<212> PRT

<213> Murinae gen. sp.

<400> 13

Asp Val Gln Leu Gln Glu Ser Gly Pro Glu Leu Val Lys Pro Ser Gln
1 5 10 15

Ser Leu Ser Leu Thr Cys Thr Val Thr Gly Tyr Ser Ile Thr Ser Asp
20 25 30

Tyr Ala Trp Asn Trp Ile Arg Gln Phe Pro Gly Asn Arg Leu Glu Trp
35 40 45

Met Gly Tyr Ile Arg Tyr Ser Gly Ile Thr Arg Tyr Asn Pro Ser Leu
50 55 60

Lys Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Lys Phe Phe
65 70 75 80

Leu Gln Leu Asn Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr Cys
85 90 95

Val Arg Ile His Tyr Tyr Gly Tyr Gly Asn Trp Gly Gln Gly Thr Thr
100 105 110

Leu Thr Gly Leu Pro
115

<210> 14

<211> 116

<212> PRT

<213> Murinae gen. sp.

<400> 14

Asp Val Gln Leu Gln Glu Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Pro Phe Thr Asp Tyr
20 25 30

Asn Met Tyr Trp Val Lys Gln Ser His Gly Lys Ser Leu Glu Trp Ile
35 40 45

Gly Tyr Ile Asp Pro Ser Asn Gly Gly Ile Phe Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Leu Thr Val Asp Lys Ser Ser Asn Thr Ala Phe
65 70 75 80

Met His Leu Asn Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Gly Gly Gly Leu Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val
100 105 110

Thr Val Ser Glu
115

<210> 15

<211> 116

<212> PRT

<213> Murinae gen. sp.

<400> 15

Glu Ile His Leu Gln Glu Ser Gly Glu Leu Val Lys Pro Gly Ala Ser
1 5 10 15

Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Ser Asp Tyr
20 25 30

Asn Met Tyr Trp Val Lys Gln Ser His Gly Lys Ser Leu Glu Trp Ile
35 40 45

Gly Tyr Ile Asp Pro His Asn Gly Gly Ile Phe Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Leu Thr Val Asp Lys Ser Ser Asn Thr Ala Phe
65 70 75 80

Met His Leu Asn Val Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Gly Gly Gly Leu Phe Ala Tyr Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ala
115

<210> 16

<211> 115

<212> PRT

<213> Murinae gen. sp.

<400> 16

Glu Val Gln Leu Gln Glu Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Asp Tyr Asn

20 25 30
 Met Tyr Trp Val Lys Gln Asn His Gly Glu Ser Leu Glu Trp Ile Ala
 35 40 45
 Tyr Ile Asp Pro Ser Asn Gly Asp Thr Arg Tyr Asn Gln Lys Phe Gln
 50 55 60
 Gly Lys Ala Thr Val Thr Leu Asp Lys Ser Ser Ser Thr Ala Phe Met
 65 70 75 80
 His Leu Asn Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala
 85 90 95
 Arg Gly Gly Gly Leu Phe Ala Phe Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110
 Val Ser Ala
 115

<210> 17

<211> 116

<212> PRT

<213> Murinae gen. sp.

<400> 17

Val Gln Leu Leu Glu Ser Gly Ala Glu Leu Val Met Pro Gly Ala Ser
 1 5 10 15

Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp His Trp
 20 25 30

Met His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly
35 40 45

Thr Ile Asp Leu Ser Asp Thr Tyr Thr Gly Tyr Asn Gln Asn Phe Lys
50 55 60

Gly Arg Ala Thr Leu Thr Leu Asp Glu Ser Ser Asn Thr Ala Tyr Met
65 70 75 80

Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ser
85 90 95

Arg Arg Gly Tyr Tyr Gly Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu
100 105 110

Thr Val Ser Ser
115

<210> 18

<211> 115

<212> PRT

<213> Murinae gen. sp.

<400> 18

Val Gln Leu Leu Glu Ser Gly Ala Glu Leu Val Lys Pro Gly Ala Ser
1 5 10 15

Val Glu Leu Ser Cys Arg Thr Ser Gly Tyr Thr Phe Thr Thr Tyr Tyr
20 25 30

Ile Tyr Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly
35 40 45

Gly Met Asn Pro Gly Asn Gly Val Thr Tyr Phe Asn Glu Lys Phe Lys
50 55 60

Asn Arg Ala Thr Leu Thr Val Asp Arg Ser Ser Ser Ile Ala Tyr Met
65 70 75 80

Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Thr
85 90 95

Arg Val Gly Asn Leu Phe Ala Tyr Trp Gly Arg Gly Thr Leu Val Thr
100 105 110

Val Ser Ala
115

<210> 19

<211> 16

<212> PRT

<213> Murinae gen. sp.

<400> 19

Arg Ser Ser Arg Ser Leu Leu Tyr Arg Asp Gly Lys Thr Tyr Leu Asn
1 5 10 15

<210> 20

<211> 7

<212> PRT

<213> Murinae gen. sp.

<400> 20

Leu Met Ser Thr Arg Ser Ser
1 5

<210> 21

<211> 9

<212> PRT

<213> Murinae gen. sp.

<400> 21

Gln His Phe Val Asp Tyr Pro Phe Thr
1 5

<210> 22

<211> 16

<212> PRT

<213> Murinae gen. sp.

<400> 22

Arg Ser Ser Lys Ser Leu Leu Tyr Glu Asp Gly Lys Thr Tyr Leu Asn
1 5 10 15

<210> 23

<211> 7

<212> PRT

<213> Murinae gen. sp.

<400> 23

Leu Met Ser Thr Arg Ala Ser
1 5

<210> 24

<211> 9

<212> PRT

<213> Murinae gen. sp.

<400> 24

Gln His Phe Glu Asp Tyr Pro Phe Thr
1 5

<210> 25

<211> 16

<212> PRT

<213> Murinae gen. sp.

<400> 25

Arg Ser Ser Lys Ser Leu Leu Tyr Glu Asp Gly Lys Thr Tyr Leu Asn
1 5 10 15

<210> 26

<211> 7

<212> PRT

<213> Murinae gen. sp.

<400> 26

Leu Met Ser Thr Arg Ala Ser
1 5

<210> 27

<211> 9

<212> PRT

<213> Murinae gen. sp.

<400> 27

Gln Gln Phe Val Glu Tyr Pro Phe Thr
1 5

<210> 28

<211> 16

<212> PRT

<213> Murinae gen. sp.

<400> 28

Arg Ser Ser Arg Ser Leu Leu Tyr Arg Asp Gly Lys Thr Tyr Leu Asn
1 5 10 15

<210> 29

<211> 7

<212> PRT

<213> Murinae gen. sp.

<400> 29

Leu Met Ser Thr Arg Ala Ser
1 5

<210> 30

<211> 9

<212> PRT

<213> Murinae gen. sp.

<400> 30

Gln His Phe Glu Asp Tyr Pro Phe Thr
1 5

<210> 31

<211> 14

<212> PRT

<213> Murinae gen. sp.

<400> 31

Arg Ser Ser Thr Gly Thr Ile Thr Thr Ser Asn Tyr Ala Asn
1 5 10

<210> 32

<211> 7

<212> PRT

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<400> 32

Ile Asn Asn Asn Arg Pro Pro
1 5

<210> 33

<211> 9

<212> PRT

<213> Murinae gen. sp.

<400> 33

Ala Leu Trp Tyr Ser Asn His Trp Val
1 5

<210> 34

<211> 14

<212> PRT

<213> Murinae gen. sp.

<400> 34

Arg Ser Ser Ala Gly Thr Ile Thr Thr Ser Asn Tyr Ala Asn
1 5 10

<210> 35

<211> 7

<212> PRT

<213> Murinae gen. sp.

<400> 35

Val Asn Asn Asn Arg Pro Pro
1 5

<210> 36

<211> 9

<212> PRT

<213> Murinae gen. sp.

<400> 36

Ala Leu Trp Tyr Ser Asn His Trp Val
1 5

<210> 37

<211> 14

<212> PRT

<213> Murinae gen. sp.

<400> 37

Arg Ser Ser Thr Gly Thr Ile Thr Ser Asp Asn Tyr Ala Asn
1 5 10

<210> 38

<211> 7

<212> PRT

<213> Murinae gen. sp.

<400> 38

Val Asn Asn Tyr Arg Pro Pro
1 5

<210> 39

<211> 9

<212> PRT

<213> Murinae gen. sp.

<400> 39

Ala Leu Trp Tyr Ser Asn His Trp Val
1 5

<210> 40

<211> 14

<212> PRT

<213> Murinae gen. sp.

<400> 40

Arg Ser Ser Ser Gly Thr Ile Thr Ala Asn Asn Tyr Gly Ser
1 5 10

<210> 41

<211> 7

<212> PRT

<213> Murinae gen. sp.

<400> 41

Val Ser Asn Asn Arg Gly Pro
1 5

<210> 42

<211> 9

<212> PRT

<213> Murinae gen. sp.

<400> 42

Ala Leu Trp Asn Ser Asn His Phe Val
1 5

<210> 43

<211> 16

<212> PRT

<213> Murinae gen. sp.

<400> 43

Lys Ser Ser Gln Ser Leu Leu Tyr Ser Asp Gly Lys Thr Tyr Leu Asn

1 5 10 15

<210> 44

<211> 7

<212> PRT

<213> Murinae gen. sp.

<400> 44

Leu Val Ser Lys Leu Asp Ser
1 5

<210> 45

<211> 9

<212> PRT

<213> Murinae gen. sp.

<400> 45

Val Gln Gly Tyr Thr Phe Pro Leu Thr
1 5

<210> 46

<211> 6

<212> PRT

<213> Murinae gen. sp.

<400> 46

Ser Asp Tyr Ala Trp Thr
1 5

<210> 47

<211> 16

<212> PRT

<213> Murinae gen. sp.

<400> 47

Tyr Ile Arg His Ile Tyr Gly Thr Arg Tyr Asn Pro Ser Leu Ile Ser
1 5 10 15

<210> 48

<211> 8

<212> PRT

<213> Murinae gen. sp.

<400> 48

Tyr His Tyr Tyr Gly Ser Ala Tyr
1 5

<210> 49

<211> 6

<212> PRT

<213> Murinae gen. sp.

<400> 49

Ser Asp Tyr Ala Trp Thr
1 5

<210> 50

<211> 16

<212> PRT

<213> Murinae gen. sp.

<400> 50

Tyr Ile Arg His Ile Tyr Gly Thr Arg Tyr Asn Pro Ser Leu Ile Ser
1 5 10 15

<210> 51

<211> 8

<212> PRT

<213> Murinae gen. sp.

<400> 51

Tyr His Tyr Tyr Gly Ser Ala Tyr
1 5

<210> 52

<211> 6

<212> PRT

<213> Murinae gen. sp.

<400> 52

Ser Asp Tyr Ala Trp Asn
1 5

<210> 53

<211> 16

<212> PRT

<213> Murinae gen. sp.

<400> 53

Tyr Ile Arg Tyr Ser Gly Ile Thr Arg Tyr Asn Pro Ser Leu Lys Ser
1 5 10 15

<210> 54

<211> 8

<212> PRT

<213> Murinae gen. sp.

<400> 54

Ile His Tyr Tyr Gly Tyr Gly Asn
1 5

<210> 55

<211> 6

<212> PRT

<213> Murinae gen. sp.

<400> 55

Ser Asp Tyr Ala Trp Thr
1 5

<210> 56

<211> 16

<212> PRT

<213> Murinae gen. sp.

<400> 56

Tyr Ile Arg His Ile Tyr Gly Thr Arg Tyr Asn Pro Ser Leu Ile Ser
1 5 10 15

<210> 57

<211> 8

<212> PRT

<213> Murinae gen. sp.

<400> 57

Tyr His Tyr Tyr Gly Ser Ala Tyr
1 5

<210> 58

<211> 5

<212> PRT

<213> Murinae gen. sp.

<400> 58

Asp Tyr Asn Met Tyr

1 5

<210> 59

<211> 17

<212> PRT

<213> Murinae gen. sp.

<400> 59

Tyr Ile Asp Pro Ser Asn Gly Gly Ile Phe Tyr Asn Gln Lys Phe Lys

1 5 10 15

Gly

<210> 60

<211> 7

<212> PRT

<213> Murinae gen. sp.

<400> 60

Gly Gly Gly Leu Phe Ala Tyr

1 5

<210> 61

<211> 5

<212> PRT

<213> Murinae gen. sp.

<400> 61

Asp Tyr Asn Met Tyr

1 5

<210> 62

<211> 17

<212> PRT

<213> Murinae gen. sp.

<400> 62

Tyr Ile Asp Pro His Asn Gly Gly Ile Phe Tyr Asn Gln Lys Phe Lys

1 5 10 15

Gly

<210> 63

<211> 7

<212> PRT

<213> Murinae gen. sp.

<400> 63

Gly Gly Gly Leu Phe Ala Tyr
1 5

<210> 64

<211> 5

<212> PRT

<213> Murinae gen. sp.

<400> 64

Asp Tyr Asn Met Tyr
1 5

<210> 65

<211> 17

<212> PRT

<213> Murinae gen. sp.

<400> 65

Tyr Ile Asp Pro Ser Asn Gly Asp Thr Phe Tyr Asn Gln Lys Phe Gln
1 5 10 15

Gly

<210> 66

<211> 7

<212> PRT

<213> Murinae gen. sp.

<400> 66

Gly Gly Gly Leu Phe Ala Phe
1 5

<210> 67

<211> 5

<212> PRT

<213> Murinae gen. sp.

<400> 67

Thr Tyr Tyr Ile Tyr
1 5

<210> 68

<211> 17

<212> PRT

<213> Murinae gen. sp.

<400> 68

Gly Met Asn Pro Gly Asn Gly Val Thr Tyr Phe Asn Glu Lys Phe Lys
1 5 10 15

Asn

<210> 69

<211> 7

<212> PRT

<213> Murinae gen. sp.

<400> 69

Val Gly Asn Leu Phe Ala Tyr
1 5

<210> 70

<211> 5

<212> PRT

<213> Murinae gen. sp.

<400> 70

Asp His Trp Met His
1 5

<210> 71

<211> 17

<212> PRT

<213> Murinae gen. sp.

<400> 71

Thr Ile Asp Leu Ser Asp Thr Tyr Thr Gly Tyr Asn Gln Asn Phe Lys

1 5 10 15

Gly

<210> 72

<211> 5

<212> PRT

<213> Murinae gen. sp.

<400> 72

Arg Gly Phe Asp Tyr

1 5

<210> 73

<211> 14

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<222> (4)..(4)

<223> x=any amino acid

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<222> (9)..(9)

<223> x=any amino acid

<220>

<221> MISC_FEATURE

<222> (10)..(10)

<223> x=any amino acid

<400> 73

Arg Ser Ser Xaa Gly Thr Ile Thr Xaa Xaa Asn Tyr Ala Asn
1 5 10

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<213> Murinae gen. sp.

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<222> (1)..(1)

<223> x=any amino acid

<400> 74

Xaa Asn Asn Tyr Arg Pro Pro
1 5

<210> 75

<211> 9

<212> PRT

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<400> 75

Ala Leu Trp Tyr Ser Asn His Trp Val
1 5

<210> 76

<211> 5

<212> PRT

<213> Murinae gen. sp.

<400> 76

Asp Tyr Asn Met Tyr
1 5

<210> 77

<211> 17

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<223> x=any amino acid

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<223> x=any amino acid

<220>

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<222> (9)..(9)

<223> x=any amino acid

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<222> (16)..(16)

<223> x=any amino acid

<400> 77

Tyr Ile Asp Pro Xaa Asn Gly Xaa Xaa Phe Tyr Asn Gln Lys Phe Xaa
1 5 10 15

Gly

<210> 78

<211> 7

<212> PRT

<213> Murinae gen. sp.

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<222> (7)..(7)

<223> x=any amino acid

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Gly Gly Gly Leu Phe Ala Xaa
1 5

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<222> (4)..(4)

<223> x=any amino acid

<220>

<221> MISC_FEATURE

<222> (9)..(9)

<223> x=any amino acid

<400> 79

Arg Ser Ser Xaa Ser Leu Leu Tyr Xaa Asp Gly Lys Thr Tyr Leu Asn
1 5 10 15

<210> 80

<211> 7

<212> PRT

<213> Murinae gen. sp.

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> x=any amino acid

<400> 80

Leu Met Ser Thr Arg Xaa Ser
1 5

<210> 81

<211> 9

<212> PRT

<213> Murinae gen. sp.

<220>

<221> MISC_FEATURE

<222> (2)..(2)

<223> x=any amimo acid

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> x=any amimo acid

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> x=any amimo acid

<400> 81

Gln Xaa Phe Xaa Xaa Tyr Pro Phe Thr

1 5

<210> 82

<211> 6

<212> PRT

<213> Murinae gen. sp.

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> x=any amino acid

<400> 82

Ser Asp Tyr Ala Trp Xaa
1 5

<210> 83

<211> 16

<212> PRT

<213> Murinae gen. sp.

<220>

<221> MISC_FEATURE

<222> (4)..(4)

<223> x=any amino acid

<220>

<221> MISC_FEATURE

<222> (5)..(5)

<223> x=any amino acid

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> x=any amino acid

<220>

<221> MISC_FEATURE

<222> (7)..(7)

<223> x=any amino acid

<220>

<221> MISC_FEATURE

<222> (15)..(15)

<223> x=any amino acid

<400> 83

Tyr Ile Arg Xaa Xaa Xaa Xaa Thr Arg Tyr Asn Pro Ser Leu Xaa Ser
1 5 10 15

<210> 84

<211> 8

<212> PRT

<213> Murinae gen. sp.

<220>

<221> MISC_FEATURE

<222> (1)..(1)

<223> x=any amino acid

<220>

<221> MISC_FEATURE

<222> (6)..(6)

<223> x=any amino acid

<220>

<221> MISC_FEATURE

<222> (7)..(7)

<223> x=any amino acid

<220>

<221> MISC_FEATURE

<222> (8)..(8)

<223> x=any amino acid

<400> 84

Xaa His Tyr Tyr Gly Xaa Xaa Xaa
1 5

<210> 85

<211> 330

<212> DNA

<213> Murinae gen. sp.

<400> 85

tctggacctg agctggtgaa gcctggggct tcaatgaagg tatcctgtaa ggcttctggt 60
tattcattca ctgactacaa tatgtactgg gtgaagcaga accatggaga gaggccttgaa 120
tggattgcat atattgatcc ttccaatggt gatactttct acaaccagaa attccagggc 180
aaggccacag tgactcttga caagtcctcc agtacagcct tcatgcatct caacagcctg 240
acatctgagg actctgcagt ctattactgt gcaagagggg ggggcctgtt tgctttctgg 300
gggcaaggga ctctggtcac tgtctctgca 330

<210> 86

<211> 110

<212> PRT

<213> Murinae gen. sp.

<400> 86

Ser Gly Pro Glu Leu Val Lys Pro Gly Ala Ser Val Lys Val Ser Cys
1 5 10 15

Lys Ala Ser Gly Tyr Ser Phe Thr Asp Tyr Asn Met Tyr Trp Val Lys
20 25 30

Gln Asn His Gly Glu Ser Leu Glu Trp Ile Ala Tyr Ile Asp Pro Ser
35 40 45

Asn Gly Asp Thr Phe Tyr Asn Gln Lys Phe Gln Gly Lys Ala Thr Val
50 55 60

Thr Leu Asp Lys Ser Ser Ser Thr Ala Phe Met His Leu Asn Ser Leu
65 70 75 80

Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Gly Gly Gly Leu
85 90 95

Phe Ala Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala
100 105 110

<210> 87

<211> 360

<212> DNA

<213> Murinae gen. sp.

<220>

<221> misc_feature

<222> (16)..(16)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (19)..(19)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (25)..(25)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (356)..(356)

<223> n=any nucleotide including c,g,t,a,u

<400> 87

gtcgcattgct cccggnccgnc atggncgcgg gattgggaat tccacgaggc cgggggagac 60

agtcacactc acttgctgtt caagtgtctgg gactattaca actagtaact atgccaactg 120

ggtccaagaa aaaccagatc attattcag tgggttaata ggtgttaaca acaaccgacc 180

tccaggtgtt cctgccagat tctcaggctc cctgattgga gacacggctg ccctcaccat 240

cacaggggca cagactgagg atgaggcaat atatttctgt gctctatggt acagcaacca 300

ctgggtgttc ggtggaggaa ccaaactgac tgcctaggc cagcccaagt ctgcncatc 360

<210> 88

<211> 99

<212> PRT

<213> Murinae gen. sp.

<400> 88

Thr Arg Pro Gly Glu Thr Val Thr Leu Thr Cys Arg Ser Ser Ala Gly
1 5 10 15

Thr Ile Thr Thr Ser Asn Tyr Ala Asn Trp Val Gln Glu Lys Pro Asp
20 25 30

His Leu Phe Ser Gly Leu Ile Gly Val Asn Asn Asn Arg Pro Pro Gly
35 40 45

Val Pro Ala Arg Phe Ser Gly Ser Leu Ile Gly Asp Thr Ala Ala Leu
50 55 60

Thr Ile Thr Gly Ala Gln Thr Glu Asp Glu Ala Ile Tyr Phe Cys Ala
65 70 75 80

Leu Trp Tyr Ser Asn His Trp Val Phe Gly Gly Gly Thr Lys Leu Thr
85 90 95

Val Leu Gly

<210> 89

<211> 419

<212> DNA

<213> Murinae gen. sp.

<400> 89

gaattcggca cgagcaggaa ctacaggtgt cactctgaga tccacctgca gcagtctgga 60

cctgagctgg tgaagcctgg ggcttcagtg aagttatcct gcaaggcttc tggttactca 120

ttcactgact acaacatgta ctgggtgaaa cagagccatg gaaagagcct tgagtggatt 180

ggatatattg atccacacaa tgggtgtatt ttctacaacc agaagtcaa gggcagggcc 240

acattgactg ttgacaagtc ctccaacaca gccttcatgc atctcaacag cctgacatct 300

gaggactctg cagtctatta ctgtgcaaga gggggggggc tgtttgctta ctggggccga 360

gggactctgg tcaactgtct tgcagccaaa acgacacccc catctgtcta tccactggc 419

<210> 90

<211> 116

<212> PRT

<213> Murinae gen. sp.

<400> 90

Glu Ile His Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Ser Phe Thr Asp Tyr
20 25 30

Asn Met Tyr Trp Val Lys Gln Ser His Gly Lys Ser Leu Glu Trp Ile
35 40 45

Gly Tyr Ile Asp Pro His Asn Gly Gly Ile Phe Tyr Asn Gln Lys Phe
50 55 60

Lys Gly Arg Ala Thr Leu Thr Val Asp Lys Ser Ser Asn Thr Ala Phe
65 70 75 80

Met His Leu Asn Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Gly Gly Gly Leu Phe Ala Tyr Trp Gly Arg Gly Thr Leu Val
100 105 110

Thr Val Ser Ala
115

<210> 91

<211> 360

<212> DNA

<213> Murinae gen. sp.

<220>

<221> misc_feature

<222> (16)..(16)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (25)..(25)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (356)..(356)

<223> n=any nucleotide including c,g,t,a,u

<400> 91

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agtcacactc actgtcgtc caagtactgg gactattaca actagtaact atgccaactg 120

ggccaagaa aaaccagatc atttattcag tggctgata ggtattaaca acaaccgacc 180

tccaggtgtt cctgccagat tctcaggctc cctgattgga gacaaggctg tcctcaccat 240

cacaggggca cagactgagg atgaggcaat atattctgt gctctatgt acagcaacca 300

ctgggtgttc ggtggaggaa ccaaactgac tgcctaggc cagcccaagt cttcgcac 360

<210> 92

<211> 99

<212> PRT

<213> Murinae gen. sp.

<400> 92

Thr Trp Pro Gly Glu Thr Val Thr Leu Thr Cys Arg Ser Ser Thr Gly
1 5 10 15

Thr Ile Thr Thr Ser Asn Tyr Ala Asn Trp Val Gln Glu Lys Pro Asp
20 25 30

His Leu Phe Ser Gly Leu Ile Gly Ile Asn Asn Asn Arg Pro Pro Gly
35 40 45

Val Pro Ala Arg Phe Ser Gly Ser Leu Ile Gly Asp Lys Ala Val Leu
50 55 60

Thr Ile Thr Gly Ala Gln Thr Glu Asp Glu Ala Ile Tyr Phe Cys Ala
65 70 75 80

Leu Trp Tyr Ser Asn His Trp Val Phe Gly Gly Gly Thr Lys Leu Thr
85 90 95

Val Leu Gly

<210> 93

<211> 360

<212> DNA

<213> Murinae gen. sp.

<400> 93

ggtccagctg ctgagtcgt gacctgagct ggtgaagcct ggggcttcag tgaagttatc 60

ctgcaaggct tctgggtacc cattcactga ctacaacatg tactgggtga agcagagcca 120

tggaaagagc cttgagtga ttgatatat tgatccttc aatgggtgta tttttacaa 180

ccagaagtc aagggcaggg ccacattgac tgttgacaag tctccaaca cagccttcac 240

gcattcaac agcctgacat ctgaggactc tgcagtctat tactgtgcaa gagggggggg 300

cctgtttgct tactggggcc aagggactct ggtcactgtc tctgaagcca aaacgaaacc 360

<210> 94

<211> 110

<212> PRT

<213> Murinae gen. sp.

<400> 94

Ser Gly Pro Glu Leu Val Lys Pro Gly Ala Ser Val Lys Leu Ser Cys
1 5 10 15

Lys Ala Ser Gly Tyr Pro Phe Thr Asp Tyr Asn Met Tyr Trp Val Lys
20 25 30

Gln Ser His Gly Lys Ser Leu Glu Trp Ile Gly Tyr Ile Asp Pro Ser
35 40 45

Asn Gly Gly Ile Phe Tyr Asn Gln Lys Phe Lys Gly Arg Ala Thr Leu
50 55 60

Thr Val Asp Lys Ser Ser Asn Thr Ala Phe Met His Leu Asn Ser Leu
65 70 75 80

Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ala Arg Gly Gly Gly Leu
85 90 95

Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Glu
100 105 110

<210> 95

<211> 360

<212> DNA

<213> Murinae gen. sp.

<400> 95

aggcgccgc actagtatt gggaattcca cgaggcgagg ggagacagtc acactcactt 60

gtcgtcaag tagtgggact attacagcta ataactatgg cagctgggtc caggaaaagc 120

cagatcattt attactggt ctaataggtg ttagcaacaa ccgaggtcca ggtgtcctg 180

ccagattctc aggtcccta attggagaca aggtgtcct caccatcacg ggggggcaga 240

ctgaggatga ggcaatttat tctgtgctc tatggaacag caaccatttc gtgttcggtg 300

gaggaaccaa actgactgtc ctagggcaga ccaagtcttt cggcatcaag caccctgttt 360

<210> 96

<211> 100

<212> PRT

<213> Murinae gen. sp.

<400> 96

Thr Arg Ala Gly Glu Thr Val Thr Leu Thr Cys Arg Ser Ser Ser Gly
1 5 10 15

Thr Ile Thr Ala Asn Asn Tyr Gly Ser Trp Val Gln Glu Lys Pro Asp
20 25 30

His Leu Phe Thr Gly Leu Ile Gly Val Ser Asn Asn Arg Gly Pro Gly
35 40 45

Val Pro Ala Arg Phe Ser Gly Ser Leu Ile Gly Asp Lys Ala Val Leu
50 55 60

Thr Ile Thr Gly Gly Gln Thr Glu Asp Glu Ala Ile Tyr Phe Cys Ala
65 70 75 80

Leu Trp Asn Ser Asn His Phe Val Phe Gly Gly Gly Thr Lys Leu Thr
85 90 95

Val Leu Gly Gln
100

<210> 97

<211> 419

<212> DNA

<213> Murinae gen. sp.

<400> 97

ccattgggcc cgacgtcgca tgcctccggc cgccatggcc gcgggattag gtccaacttc 60

tcgagtctgg ggctgaactg gtgaagcctg gggcttcagt ggagttgtcc tgcaggactt 120

ctggctacac cttcaccacc tactatattt actgggtaaa acagaggcct ggacaaggcc 180

ttgagtggat tgggggggatg aatcctggca atggtgttac ttacttcaat gaaaaattca 240

agaacagggc cacactgact gtggacagat cctccagcat tgcctacatg caactcagca 300

gcctgacatc tgaggactct gcggtctatt actgtacacg ggtgggtaac tctttgetta 360

ctggggccga gggactctgg tcaactgtctc tgcagccaaa acgacacccc actttctat 419

<210> 98

<211> 115

<212> PRT

<213> Murinae gen. sp.

<400> 98

Val Gln Leu Leu Glu Ser Gly Ala Glu Leu Val Lys Pro Gly Ala Ser
1 5 10 15

Val Glu Leu Ser Cys Arg Thr Ser Gly Tyr Thr Phe Thr Thr Tyr Tyr
20 25 30

Ile Tyr Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly
35 40 45

Gly Met Asn Pro Gly Asn Gly Val Thr Tyr Phe Asn Glu Lys Phe Lys
50 55 60

Asn Arg Ala Thr Leu Thr Val Asp Arg Ser Ser Ser Ile Ala Tyr Met
65 70 75 80

Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Thr
85 90 95

Arg Val Gly Asn Ser Leu Leu Thr Gly Ala Glu Gly Leu Trp Ser Leu
100 105 110

Ser Leu Gln
115

<210> 99

<211> 339

<212> DNA

<213> Murinae gen. sp.

<400> 99

gatattgtga tgaccagga tgaactctcc aatcctgtca cttctggaga atcagtttcc 60

atctcctgca ggtctagtag gagtctccta tatagggatg ggaagacata attgaattgg 120

tttctgcaga gaccaggacg atctcctcaa ctctgatct attgatgtc caccogttca 180

tcaggagtct cagaccgggt tagtggcagt gggtcaggaa cagatttcac cctggaaatc 240

agtagagtga aggctgagga tgtgggtgtg tattactgtc aacactttgt agactatcca 300

ttcacgttcg gctcggggac aaagttggag ataaaacgg 339

<210> 100

<211> 113

<212> PRT

<213> Murinae gen. sp.

<400> 100

Asp Ile Val Met Thr Gln Asp Glu Leu Ser Asn Pro Val Thr Ser Gly
1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Arg Ser Leu Leu Tyr Arg
20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Phe Leu Gln Arg Pro Gly Arg Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Leu Met Ser Thr Arg Ser Ser Gly Val Ser
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Glu Ile
65 70 75 80

Ser Arg Val Lys Ala Glu Asp Val Gly Val Tyr Tyr Cys Gln His Phe
85 90 95

Val Asp Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
100 105 110

Arg

<210> 101

<211> 366

<212> DNA

<213> Murinae gen. sp.

<400> 101

gatgtgcagc ttcaggagtc gggacctggc ctggtgaaac cttctcagtc tctgtccctc 60
acctgcactg tcactggcaa ttcaatcacc agtgattatg cctggacctg gatccggcag 120
tttccaggaa acaaactgga gtggatgggc tacataaggc acatttatgg cactaggtac 180
aacccttctc tcataagtcg aatctctatc actcgagaca cgtccaagaa ccagttcttc 240
ctgcagtggg attctgtgac tgctgaggac acagccacat attattgtgt aagatatcat 300
tactacggtt cggcttactg gggccaaggg actctgggtca ctgtctctgc agccaaaacg 360
acaccc 366

<210> 102

<211> 122

<212> PRT

<213> Murinae gen. sp.

<400> 102

Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

Ser Leu Ser Leu Thr Cys Thr Val Thr Gly Asn Ser Ile Thr Ser Asp
20 25 30

Tyr Ala Trp Thr Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu Trp
35 40 45

Met Gly Tyr Ile Arg His Ile Tyr Gly Thr Arg Tyr Asn Pro Ser Leu
50 55 60

Ile Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe Phe
65 70 75 80

Leu Gln Leu Asp Ser Val Thr Ala Glu Asp Thr Ala Thr Tyr Tyr Cys
85 90 95

Val Arg Tyr His Tyr Tyr Gly Ser Ala Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ala Ala Lys Thr Thr Pro
115 120

<210> 103

<211> 368

<212> DNA

<213> Murinae gen. sp.

<400> 103

gatatgggtga tgacgcaaga tgaactctcc aatcctgtca ctctggaga atcagtttcc 60

atctcctgca ggtctagtag gagtctccta tatagggatg ggaagacata ctgaattgg 120

ttctgcaga gaccaggacg atctcctcaa ctctgatct attgatgtc caccgtgca 180

tcaggagtct cagaccggtt tagtggcagt gggtcaggaa cagattcac cctggaaatc 240

agtagagtga aggctgagga tgtgggtgtg tattacttcc aacacttga agactatcca 300

ttcacgttcg gctcggggac aaaattggag ataaaacggg ctgatgtgc accaactgta 360

tccatctt

368

<210> 104

<211> 113

<212> PRT

<213> Murinae gen. sp.

<400> 104

Asp Met Val Met Thr Gln Asp Glu Leu Ser Asn Pro Val Thr Ser Gly
1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Arg Ser Leu Leu Tyr Arg
20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Phe Leu Gln Arg Pro Gly Arg Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Leu Met Ser Thr Arg Ala Ser Gly Val Ser
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Glu Ile
65 70 75 80

Ser Arg Val Lys Ala Glu Asp Val Gly Val Tyr Tyr Phe Gln His Phe
85 90 95

Glu Asp Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
100 105 110

Arg

<210> 105

<211> 366

<212> DNA

<213> Murinae gen. sp.

<400> 105

gacgtgcagt tgcaggagtc gggacctggc ctggtgaaac cttctcagtc tctgtccctc 60

acctgcactg tcactggcaa ttcaatcacc agtgattatg cctggacctg gatccggcag 120

ttccaggaa acaaactgga gtggatgggc tacataaggc acatttatgg cactaggtac 180

aacccttctc tcataagtcg aatctctatc actcgagaca cgtccaagaa ccagtcttc 240

ctgcagttgg attctgtgac tgctgaggac acagccacat attattgtgt aagatatcat 300

tactacggtt cggcttactg gggccaaggg actctggtca ctgtctctgc agccaaaacg 360

acaccc

366

<210> 106

<211> 122

<212> PRT

<213> Murinae gen. sp.

<400> 106

Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

Ser Leu Ser Leu Thr Cys Thr Val Thr Gly Asn Ser Ile Thr Ser Asp
20 25 30

Tyr Ala Trp Thr Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu Trp
35 40 45

Met Gly Tyr Ile Arg His Ile Tyr Gly Thr Arg Tyr Asn Pro Ser Leu
50 55 60

Ile Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe Phe
65 70 75 80

Leu Gln Leu Asp Ser Val Thr Ala Glu Asp Thr Ala Thr Tyr Tyr Cys
85 90 95

Val Arg Tyr His Tyr Tyr Gly Ser Ala Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ala Ala Lys Thr Thr Pro
115 120

<210> 107

<211> 368

<212> DNA

<213> Murinae gen. sp.

<400> 107

gatatggtga tgacgcaaga cgaactctcc aatcctgtca cttctggaga atcagtttcc 60

atctcctgca ggtctagtaa gagtctccta tatgaggatg ggaagacata ctgaattgg 120

tttctgcaga gaccaggaca atctcctcac ctctgatct attgatgtc caccctgca 180

tcaggagtct cagaccgggt tagtggcagt gggtcaggaa cagattcac cctggaaatc 240

agtagagtga aggctgagga tgtgggtgcg tattactgtc aacaattgt agagtatcca 300

ttcacgttcg gctcggggac aaagttggaa ataagacggg ttgatgccgc accaactgta 360

tccatctt

368

<210> 108

<211> 113

<212> PRT

<213> Murinae gen. sp.

<400> 108

Asp Met Val Met Thr Gln Asp Glu Leu Ser Asn Pro Val Thr Ser Gly
1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu Tyr Glu
20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Phe Leu Gln Arg Pro Gly Gln Ser
35 40 45

Pro His Leu Leu Ile Tyr Leu Met Ser Thr Arg Ala Ser Gly Val Ser
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Glu Ile
65 70 75 80

Ser Arg Val Lys Ala Glu Asp Val Gly Ala Tyr Tyr Cys Gln Gln Phe
85 90 95

Val Glu Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Arg
100 105 110

Arg

<210> 109

<211> 420

<212> DNA

<213> Murinae gen. sp.

<220>

<221> misc_feature

<222> (21)..(21)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (28)..(28)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (31)..(31)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (37)..(37)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (40)..(40)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (49)..(49)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (56)..(56)

<223> n=any nucleotide including c,g,t,a,u

<400> 109

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gctggtgaag ccttctcagt ctctgtccct cacctgcact gtcactggct actcaatcac 120

cagtgattat gcctggaact ggatccggca gttccagga aacagactgg agtggatggg 180

ctacataagg tacagtggta tcaatagga caaccatct ctcaaaagtc gaatctctat 240

cactcgagac acatccaaga acaagttctt cctgcagta aattctgtga ctactgagga 300

cacagccact tattactgtg taagaattca ttactacggc tacggcaact gggggcaagg 360

caccactctc acaggtcttc ctcaagagtc tgggaagaaa tcccacccat ctccocact 420

<210> 110

<211> 108

<212> PRT

<213> Murinae gen. sp.

<400> 110

Glu Leu Val Lys Pro Ser Gln Ser Leu Ser Leu Thr Cys Thr Val Thr
1 5 10 15

Gly Tyr Ser Ile Thr Ser Asp Tyr Ala Trp Asn Trp Ile Arg Gln Phe
20 25 30

Pro Gly Asn Arg Leu Glu Trp Met Gly Tyr Ile Arg Tyr Ser Gly Ile
35 40 45

Thr Arg Tyr Asn Pro Ser Leu Lys Ser Arg Ile Ser Ile Thr Arg Asp
50 55 60

Thr Ser Lys Asn Lys Phe Phe Leu Gln Leu Asn Ser Val Thr Thr Glu
65 70 75 80

Asp Thr Ala Thr Tyr Tyr Cys Val Arg Ile His Tyr Tyr Gly Tyr Gly
85 90 95

Asn Trp Gly Gln Gly Thr Thr Leu Thr Gly Leu Pro
100 105

<210> 111

<211> 420

<212> DNA

<213> Murinae gen. sp.

<220>

<221> misc_feature

<222> (1)..(1)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (13)..(13)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (402)..(402)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (404)..(404)

<223> n=any nucleotide including c,g,t,a,u

<400> 111

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gatgacgcag gatgaactct ccaatctgt cactctgga gaatcagttt ccattctctg 120
 caggcttagt aggagtctcc tatataggga tgggaagaca tacttgaatt ggtttctgca 180
 gagaccagga cgatctctc aactcctgat ctatttgatg tccaccctg catcaggagt 240
 ctgagaccgg tttagtgga gtgggtcagg aacagattc accctggaaa tcagtagagt 300
 gaaggctgag gatgtgggtg tgtattactg tcaacacitt gtagactatc cattcacgtt 360
 cggctcgggg acaaagttgg agataaaacg gggtgatgct gnancaactg tatccatctt 420

<210> 112

<211> 113

<212> PRT

<213> Murinae gen. sp.

<400> 112

Asp Met Val Met Thr Gln Asp Glu Leu Ser Asn Pro Val Thr Ser Gly
 1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Arg Ser Leu Leu Tyr Arg
 20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Phe Leu Gln Arg Pro Gly Arg Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Leu Met Ser Thr Arg Ala Ser Gly Val Ser
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Glu Ile
 65 70 75 80

Ser Arg Val Lys Ala Glu Asp Val Gly Val Tyr Tyr Cys Gln His Phe

85

90

95

Val Asp Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
100 105 110

Arg

<210> 113

<211> 419

<212> DNA

<213> Murinae gen. sp.

<220>

<221> misc_feature

<222> (381)..(381)

<223> n=any nucleotide including c,g,t,a,u

<400> 113

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ttctcagtct ctgtccctca cctgcactgt cactggtaat tcaatcacca gtgattatgc 120

ctggacctgg atccggaagt ttccaggaaa caaactggag tggttgggt acataaggca 180

catttatggc actaggtaca acccttctct cataagtcga atctctatca ctcgagacac 240

gtccaagaac cagttcttcc tgcagttgga ttctgtgact gctgaggaca cagccacata 300

ttattgtga agatattcatt actacgggtc ggcttactgg gggcaaggga ctctggtcac 360

tgtctctgca ggcaaaacga naccctatct gtctatcact ggccccggaa cgccgccag 419

<210> 114

<211> 117

<212> PRT

<213> Murinae gen. sp.

<400> 114

Asp Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

Ser Leu Ser Leu Thr Cys Thr Val Thr Gly Asn Ser Ile Thr Ser Asp
20 25 30

Tyr Ala Trp Thr Trp Ile Arg Lys Phe Pro Gly Asn Lys Leu Glu Trp
35 40 45

Leu Gly Tyr Ile Arg His Ile Tyr Gly Thr Arg Tyr Asn Pro Ser Leu
50 55 60

Ile Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe Phe
65 70 75 80

Leu Gln Leu Asp Ser Val Thr Ala Glu Asp Thr Ala Thr Tyr Tyr Cys
85 90 95

Val Arg Tyr His Tyr Tyr Gly Ser Ala Tyr Trp Gly Gln Gly Thr Leu
100 105 110

Val Thr Val Ser Ala
115

<210> 115

<211> 420

<212> DNA

<213> Murinae gen. sp.

<220>

<221> misc_feature

<222> (3)..(3)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (11)..(11)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (27)..(27)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (43)..(43)

<223> n=any nucleotide including c,g,t,a,u

<400> 115
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 ctctgatga cacagtctcc actcactttg tcggtaacca ttggacaacc agcctctatc 120
 tcttgaagt caagtcagag cctcttatat agtgatggaa aaacctattt gaattgggtc 180
 ttccagaggc caggccagtc tccaaagcgc ctaatctatc tgggtctaa actggactct 240
 ggagtcctg acaggttcac tggcagtgga tcaggaaaag atttacact gaaaatcagc 300
 agagtggagg ctgaggattt gggactttat tactgcgttc aagggtacac attccgctc 360
 acgttcggtg ctgggaccaa gctggagctg aaacgggtga tgctgaccaa ctgtttcat 420

<210> 116

<211> 113

<212> PRT

<213> Murinae gen. sp.

<400> 116

Glu Leu Val Met Thr Gln Ser Pro Leu Thr Leu Ser Val Thr Ile Gly
 1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
 20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Phe Phe Gln Arg Pro Gly Gln Ser
 35 40 45

Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
 50 55 60

Asp Arg Phe Thr Gly Ser Gly Ser Gly Lys Asp Phe Thr Leu Lys Ile

65

70

75

80

Ser Arg Val Glu Ala Glu Asp Leu Gly Leu Tyr Tyr Cys Val Gln Gly
85 90 95

Tyr Thr Phe Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
100 105 110

Arg

<210> 117

<211> 420

<212> DNA

<213> Murinae gen. sp.

<220>

<221> misc_feature

<222> (37)..(37)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (40)..(40)

<223> n=any nucleotide including c,g,t,a,u

<220>

<221> misc_feature

<222> (414)..(414)

<223> n=any nucleotide including c,g,t,a,u

<400> 117

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gagtctgggg ctgagcttgt gatgcctggg gcttcagtga agatgtctg caaggcttct 120

ggctacacat tcaactgacca ctggatgcac tgggtgaagc agaggcctgg acaaggcctt 180

gagtggatcg gaacgatga tctttctgat acttatactg gctacaatca aaacttcaag 240

ggcagggcca cattgactct cgacgaatcc tccaacacag cctacatgca gctcagcagc 300

ctgacatctg aggactctgc ggtctattac tgttaagaa ggggcttga ctactggggg 360

caaggcacca ctctcacagt ctctcaggc aaaacgacaa ccccatcttg tctntccact 420

<210> 118

<211> 113

<212> PRT

<213> Murinae gen. sp.

<400> 118

Val Gln Leu Leu Glu Ser Gly Ala Glu Leu Val Met Pro Gly Ala Ser
1 5 10 15

Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp His Trp
20 25 30

Met His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile Gly
35 40 45

Thr Ile Asp Leu Ser Asp Thr Tyr Thr Gly Tyr Asn Gln Asn Phe Lys
50 55 60

Gly Arg Ala Thr Leu Thr Leu Asp Glu Ser Ser Asn Thr Ala Tyr Met
65 70 75 80

Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys Ser
85 90 95

Arg Arg Gly Phe Asp Tyr Trp Gly Gln Gly Thr Thr Leu Thr Val Ser
100 105 110

Ser

<210> 119

<211> 280

<212> PRT

<213> Murinae gen. sp.

<400> 119

Met Glu Val Gln Leu Gln Glu Ser Gly Pro Glu Leu Val Lys Pro Ser
1 5 10 15

Gln Ser Leu Ser Leu Thr Cys Thr Val Thr Gly Asn Ser Ile Thr Ser
20 25 30

Asp Tyr Ala Trp Thr Trp Ile Arg Gln Phe Pro Gly Asn Lys Leu Glu
35 40 45

Trp Met Gly Tyr Ile Arg His Ile Tyr Gly Thr Arg Tyr Asn Pro Ser

50 55 60

Leu Ile Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Lys Asn Gln Phe
65 70 75 80

Phe Leu Gln Leu Asp Ser Val Thr Ala Glu Asp Thr Ala Thr Tyr Tyr
85 90 95

Cys Val Arg Tyr His Tyr Tyr Gly Ser Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ala Gly Met Gln Ser Gly Gly Gly Ser Gly
115 120 125

Gly Gly Gly Ser Gly Gly Ala Met Asp Ile Val Met Thr Gln Asp Glu
130 135 140

Leu Ser Asn Pro Val Thr Ser Gly Glu Ser Val Ser Ile Ser Cys Arg
145 150 155 160

Ser Ser Arg Ser Leu Leu Tyr Arg Asp Gly Lys Thr Tyr Leu Asn Trp
165 170 175

Phe Leu Gln Arg Pro Gly Arg Pro Pro Gln Leu Leu Ile Tyr Leu Met
180 185 190

Ser Thr Arg Ser Ser Gly Val Ser Asp Arg Phe Ser Gly Ser Gly Ser
195 200 205

Gly Thr Asp Phe Thr Leu Glu Ile Ser Arg Val Lys Ala Glu Asp Val
210 215 220

Gly Val Tyr Tyr Cys Gln His Phe Val Asp Tyr Pro Phe Thr Phe Gly
225 230 235 240

Ser Gly Thr Lys Leu Glu Ile Lys Arg Ala Asp Gly Ala Pro Thr Val
245 250 255

Ser Ile Phe Phe Pro Pro Ser Leu Asp Tyr Lys Asp Asp Asp Asp Lys
260 265 270

Leu Glu His His His His His His
275 280

<210> 120

<211> 360

<212> DNA

<213> Murinae gen. sp.

<400> 120

gctgttgta ctcaggagtc tgctctaact acatcacctg gtgaaacagt cacactcact 60

tgctgctcaa gtactgggac tattacaagt gataactatg ccaactgggt ccaagaaaaa 120

ccagatcatt tattcagtgg tctaataagg gtaataatt accgacctcc aggtgttcct 180

gccagattct caggctccct gactggagac aaggctgtcc tcaccatcac aggggcacag 240

actgaggatg aggcaatata ttctgtgct ctatgttaca gcaaccactg ggtgttcggt 300

ggaggaacca aactgactgt cctaggccag cccaagtctt cgccatcagt caccctgttt 360

<210> 121

<211> 109

<212> PRT

<213> Murinae gen. sp.

<400> 121

Ala Val Val Thr Gln Glu Ser Ala Leu Thr Thr Ser Pro Gly Glu Thr
1 5 10 15

Val Thr Leu Thr Cys Arg Ser Ser Thr Gly Thr Ile Thr Ser Asp Asn
20 25 30

Tyr Ala Asn Trp Val Gln Glu Lys Pro Asp His Leu Phe Ser Gly Leu
35 40 45

Ile Gly Val Asn Asn Tyr Arg Pro Pro Gly Val Pro Ala Arg Phe Ser
50 55 60

Gly Ser Leu Thr Gly Asp Lys Ala Val Leu Thr Ile Thr Gly Ala Gln
65 70 75 80

Thr Glu Asp Glu Ala Ile Tyr Phe Cys Ala Leu Trp Tyr Ser Asn His
85 90 95

Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu Gly
100 105

Sub C1